NaturaConnect updates

16th Carpathian Convention Working Group on Biodiversity Meeting, Veselí nad Moravou, Czech Republic, 14-15 May 2025

Hildegard Meyer, WWF Central and Eastern Europe

hmeyer@wwfcee.org

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15 May 2025

Brief introduction to the project

Designing a resilient and coherent Trans-European Network for Nature and People

July 2022 – June 2026

NaturaConnect co-develops

knowledge, tools and capacity

to support **countries** realizing the objectives of the **EU Biodiversity Strategy 2030**.

- 30% of land and sea protected

- 10% thereof strictly

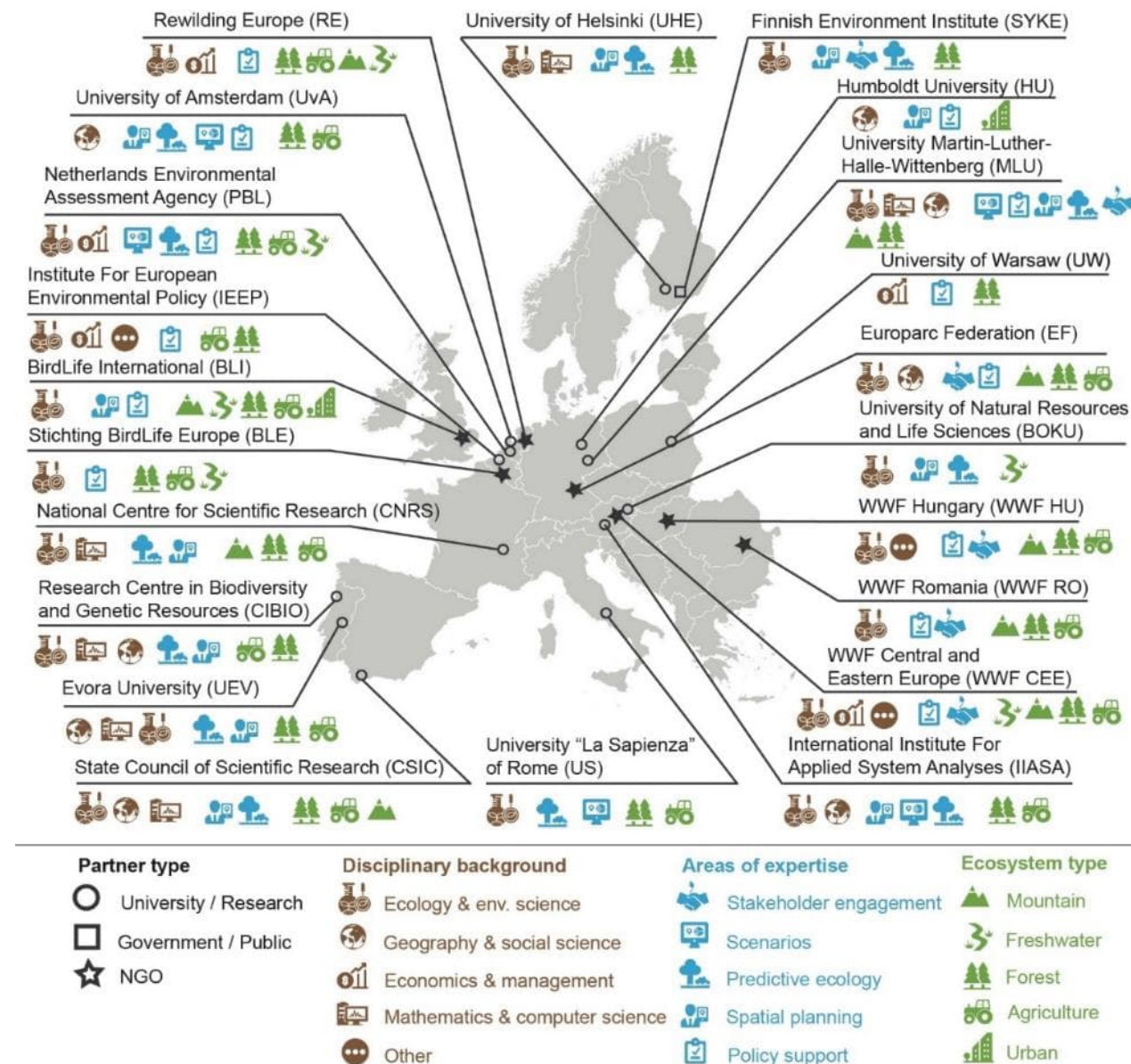- Establish TEN-N

Copyright: WWF-CEE

Project consortium

17 Research institutions

5 Policy and practitioner organisations

12 countries across Europe

Lead: International Institute for Applied System Analyses (IIASA), Austria

Co-lead: Martin-Luther-University, Germany

Source: IIASA, 2022

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Case studies

International case study

- Danube-Carpathian Transboundary Region

National case studies

- Finland
- France
- Portugal

Regional case studies

- The Doñana Region in Spain
- Leipzig-Halle Peri-urban Floodplains, Germany

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Source: IIASA, 2022

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NaturaConnect will...

- Design a **coherent**, **resilient** and **ecologically representative** extended protected area network

- Support **protecting** and **restoring corridors** enhancing connectivity of green and blue infrastructure

- Provide **data**, **tools** and **examples** to support countries implementing the Trans-European Nature Network
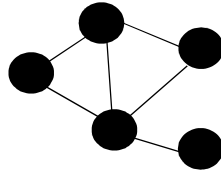
- **Engage relevant stakeholders**

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The underlying principles of our work:
CARE principles

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C = Comprehensive

A = Adequate

R = Resilience

E = Effective

C = Comprehensive

Means all aspects of biodiversity, genetic & species & ecosystem diversity

- > 60% of EU countries struggle with missing data and information on species and habitats of Article 12 and 17 reporting (EuropaBON, 2022)

- An unknown coverage for over half of reptiles, amphibians and mammal species (EEA 2020 State of Nature in the EU reporting 2013-20218)

- Lack of monitoring data on taxa that are not addressed in the Directives (EuropaBON, 2022)

- Raw data and georeferenced data are barely available and traceable in workflows (EuropaBON, 2022)
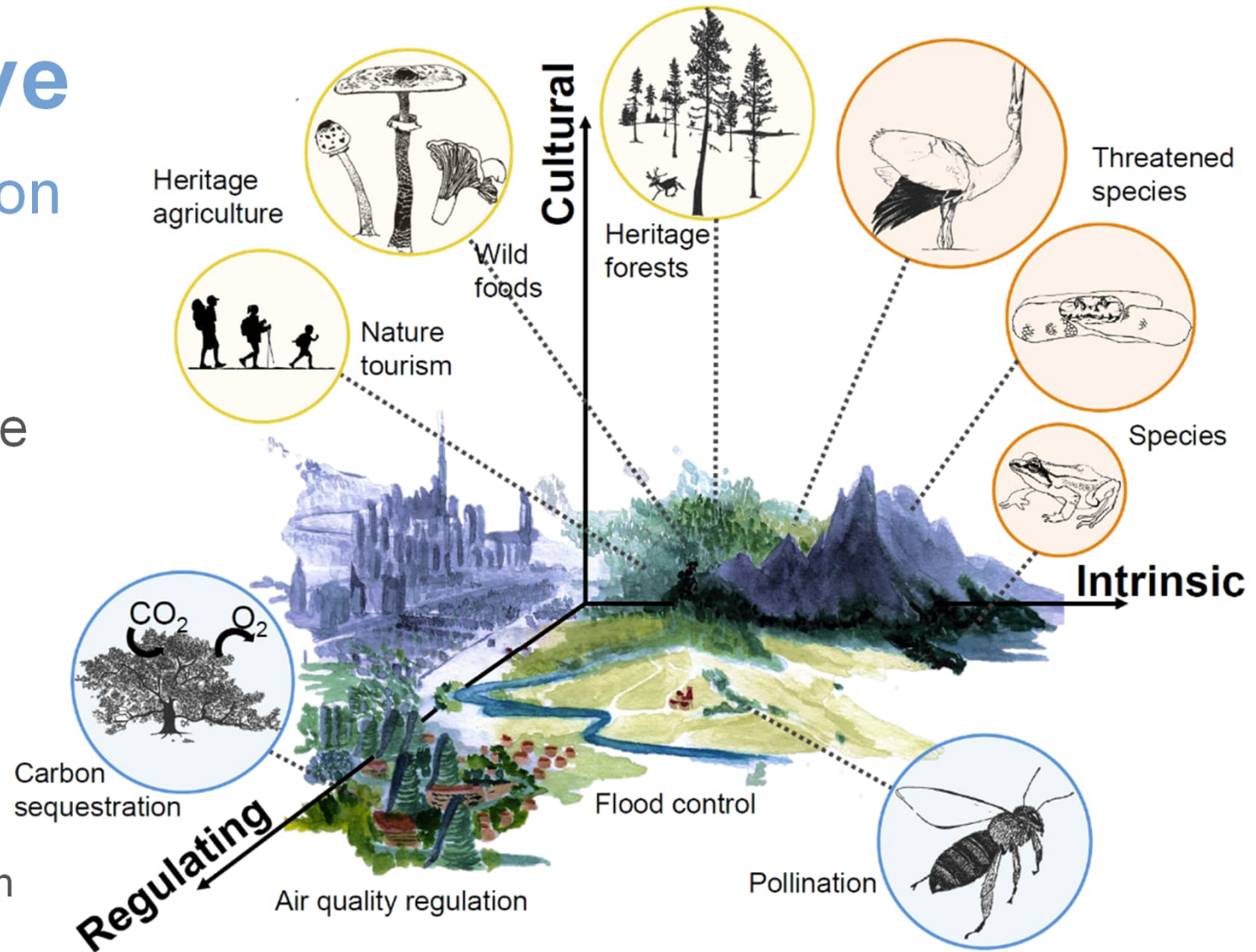
Copyright: Emma Gileva, BSNN

C = Comprehensive

Comprehensive conservation for who?

Address the demand for ecosystem services and improve supply to our own well-being

- Nature for Nature
- Nature for People
- Nature for Culture

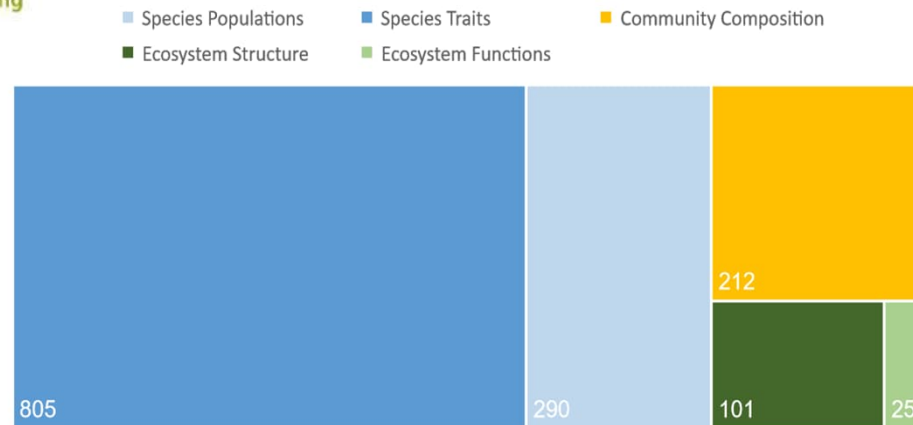Nature Futures Framework (Convention on Biological Diversity, IPBES)

Source: L. O'Connor et al. 2021, Science

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Source: L. Navarro
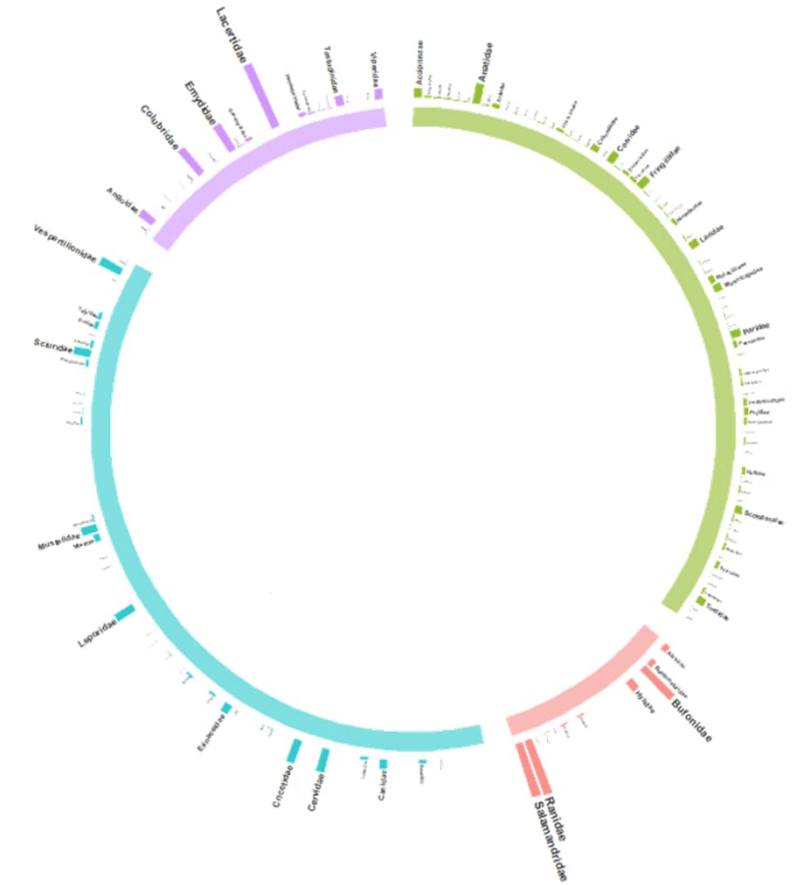
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Addressing comprehensiveness

Data check, assess demand for protected areas and their supply to humans

Open Traits Network

Species Populations ▪ Species Traits ▪ Community Composition
Ecosystem Structure ▪ Ecosystem Functions

805 | 290 | 101 | 25 | 212

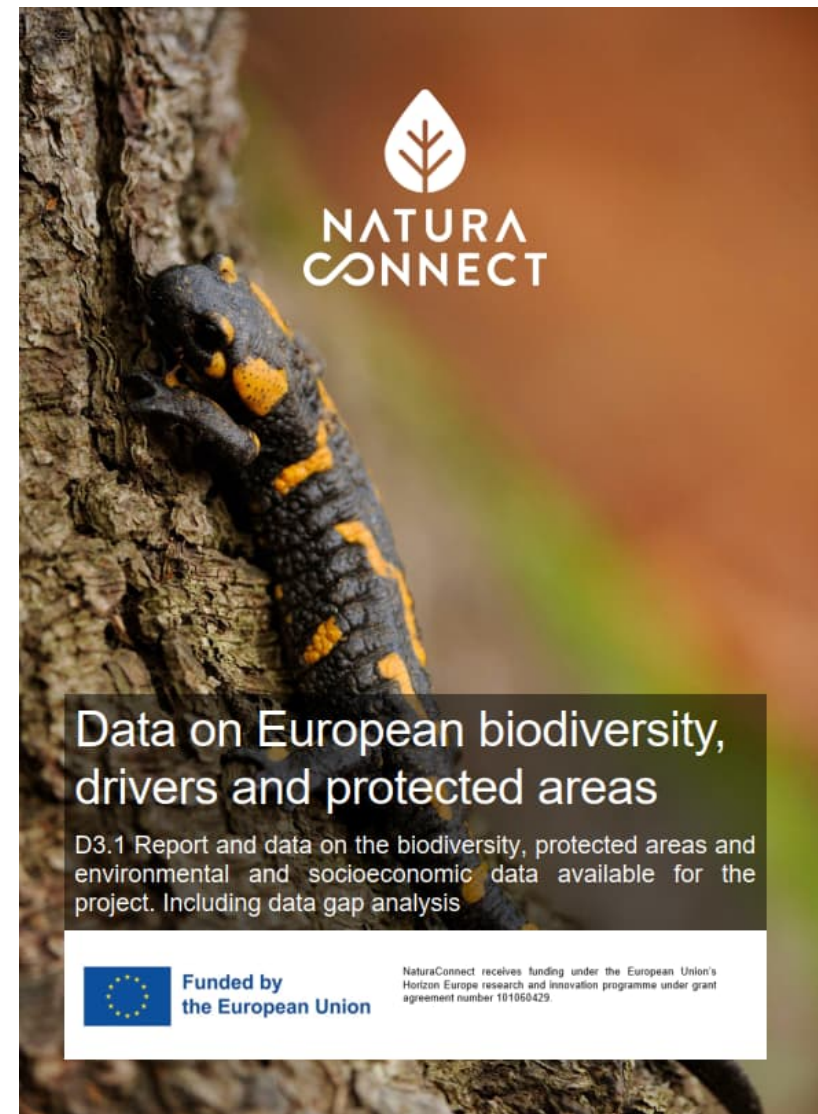Source: L. Navarro

Source: F. Cosentino

Data on European Biodiversity, Drivers and Protected Areas

D3.1 Report and data on the biodiversity, protected areas and environmental and socioeconomic data available for the project, Including gap analysis.

This report presents an overview of data identification and documentation related to biodiversity, ecosystem services and the associated drivers, pressures and response mechanisms.

Author(s): Laetitia Navarro, Francesca Cosentino, Virgilio Hermoso, Luigi Maiorano, Maria Paniw, Eloy Revilla, Andrea Sacchi, Luca Santini, Zulima Tablado, Wilfried Thuiller
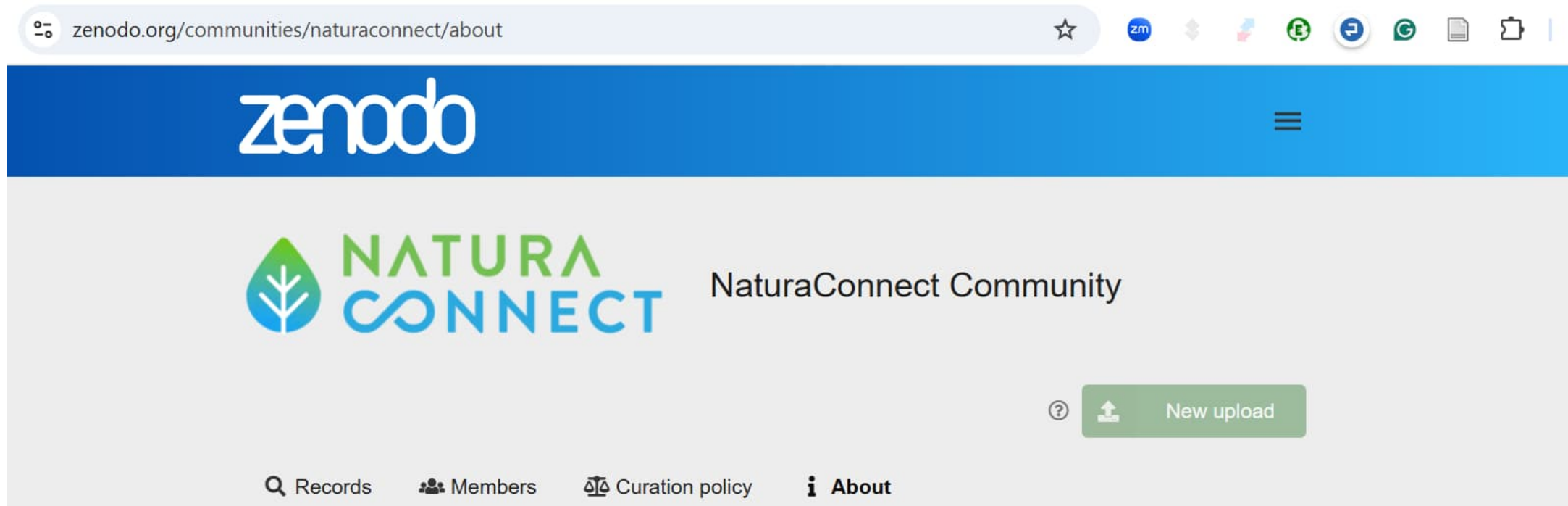
DOI: https://doi.org/10.3897/arphapreprints.e142876

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Data on European biodiversity, drivers and protected areas

D3.1 Report and data on the biodiversity, protected areas and environmental and socioeconomic data available for the project. Including data gap analysis

Funded by the European Union

NaturaConnect receives funding under the European Union's Horizon Europe research and innovation programme under grant agreement number 101060429.

Open-access GIS Database across Europe

https://zenodo.org/communities/naturaconnect

One example: <u>Metadatabase of available data on drivers, pressures, biodiversity, ecosystem services and conservation actions</u>

Publication on Nature Futures

ntal Management

Long/10.1007/s00267-025-02123-3

tives for Positive Nature Futures in Europe

dra D'Alessio[1] · Claudia Fornarini[1] · Nestor Fernandez[2,3] · Anandi Sarita Namasivayam[4] · Piero Visco
Dertien[2,3] · Maria Hällfors[6] · Martin Jung[5] · Francisco Moreira[7] · Louise O'Connor[5] · Matea Osti[5] ·
Quintero-Uribe[2,3] · Martina Marei Viti[2,3] · Andrea Lauta[1] · Henrique M. Pereira[2,3,7] · Peter H. Verbur
ondinini[1]
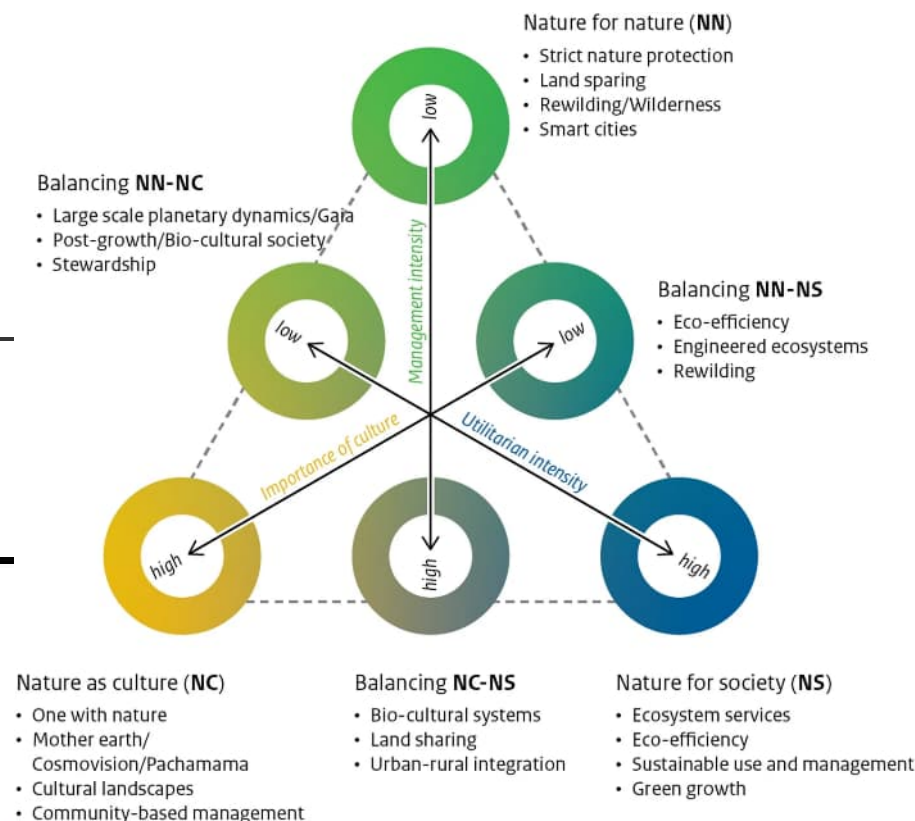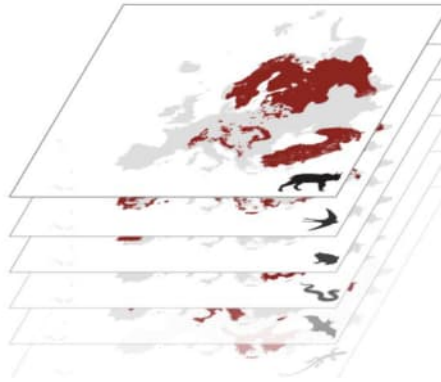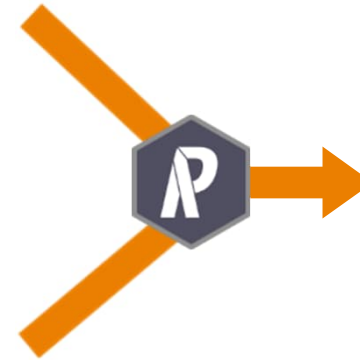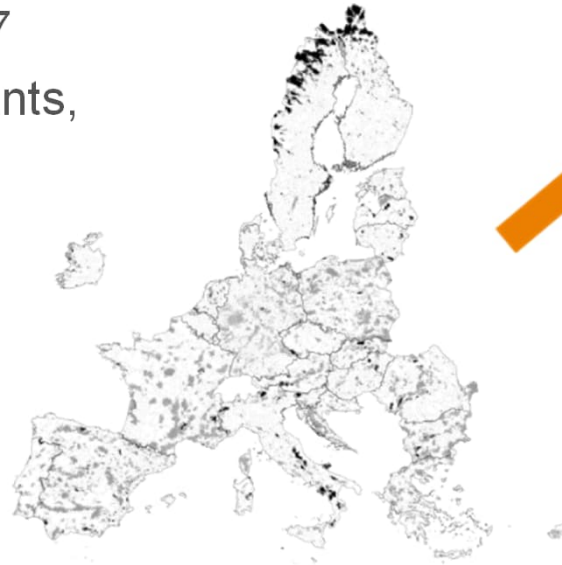
A = Adequate

Is the protected are network sufficient in terms of size, connectivity, fragmentation and integrity?

- Species and habitats in Articles 12 and 17
  - Mammals, birds, reptiles, amphibians, plants, arthropods
- Threatened species and ecosystems

- Other important ecosystems
  - Primary and old-growth forests

Targets
how much is
enough?

Weights
how important is it to
protect each species?
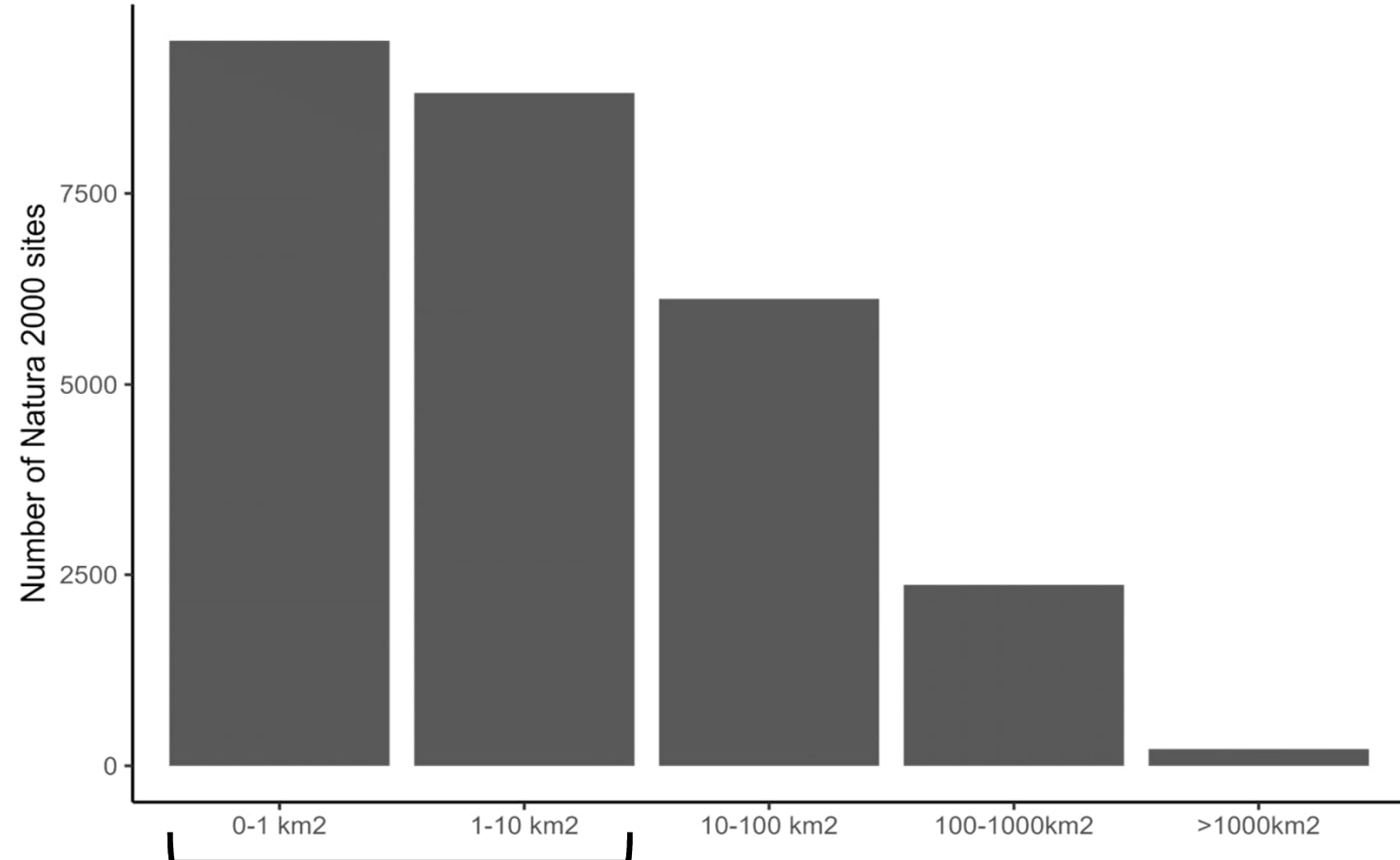
Scenarios for
protected area
expansion

Source: L. O'Connor et al. 2021, Science

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A = Adequacy

Size, isolation & fragmentation

- Approx. 67% of Natura 2000 sites in Europe are less than 10 km²

- Are they large enough to serve biodiversity and ecosystem services?

- Edge effects, isolation threaten species.

- Many species need large undisturbed areas for their prosperity.
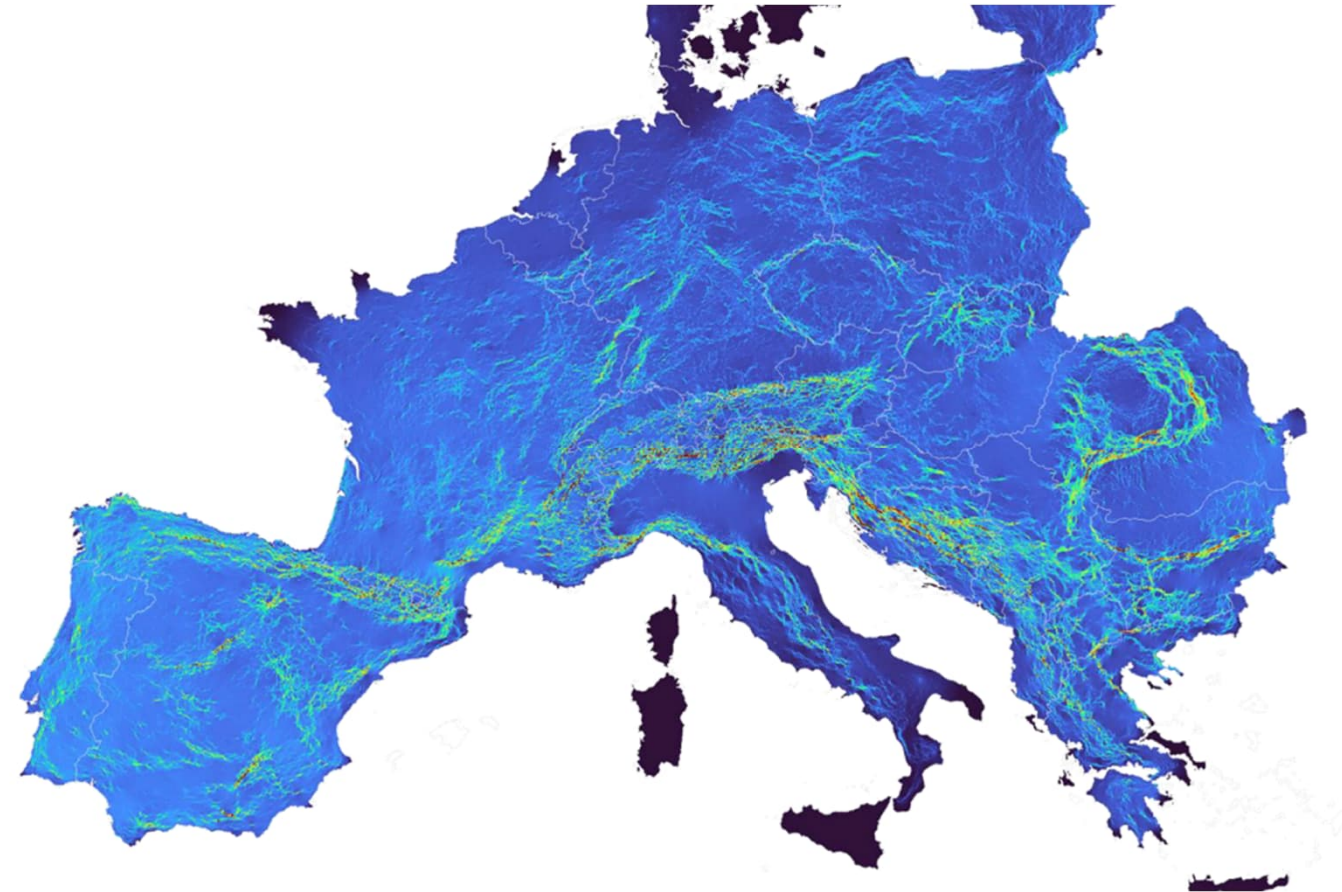

Source: EEA   **67%**

A = Adequacy

Size, isolation & fragmentation

- Current protected area coverage in Europe is 26.1% including Natura 2000 sites and national designations

- Protecting 30% would double biodiversity gains

Potential biodiversity gains
Protected in Natura 2000

Source: L. O'Connor et al. 2021, Science

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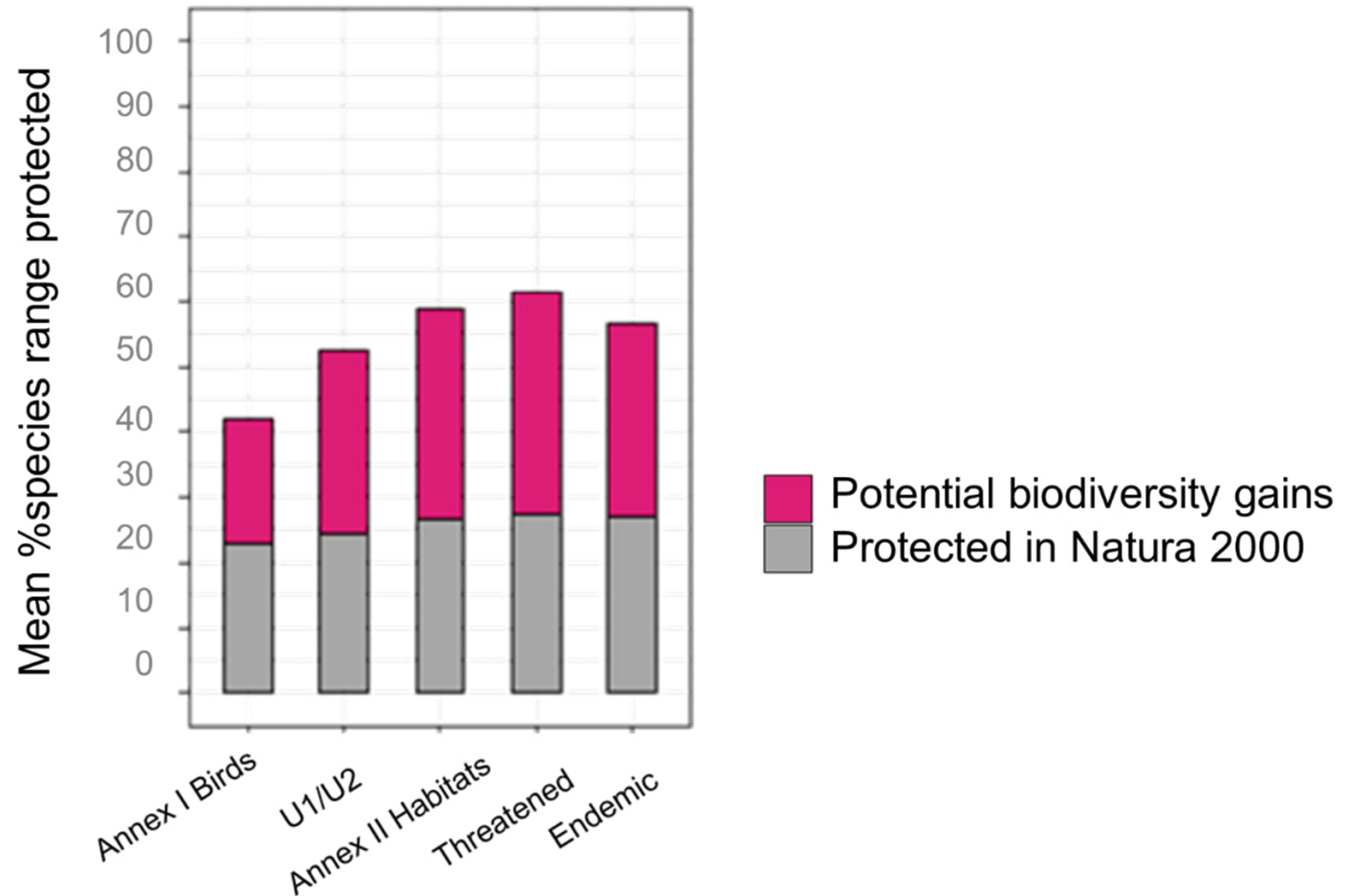
Addressing adequacy

Connectivity analysis for Ursus arctos.
Source: Jeremy Dertien & NaturaConnect project.

Guidelines for connectivity conservation and planning in Europe with supporting web based inventory and databases

D6.1 Guidelines for connectivity conservation and planning in Europe with supporting webbased inventory and databases

This report presents a coherent methodological framework and guidelines for mapping functional and structural connectivity at the European scale, as part of the Horizon Europe NaturaConnect project, which is supporting EU Member States in developing a coherent TEN-N of protected and conserved areas.
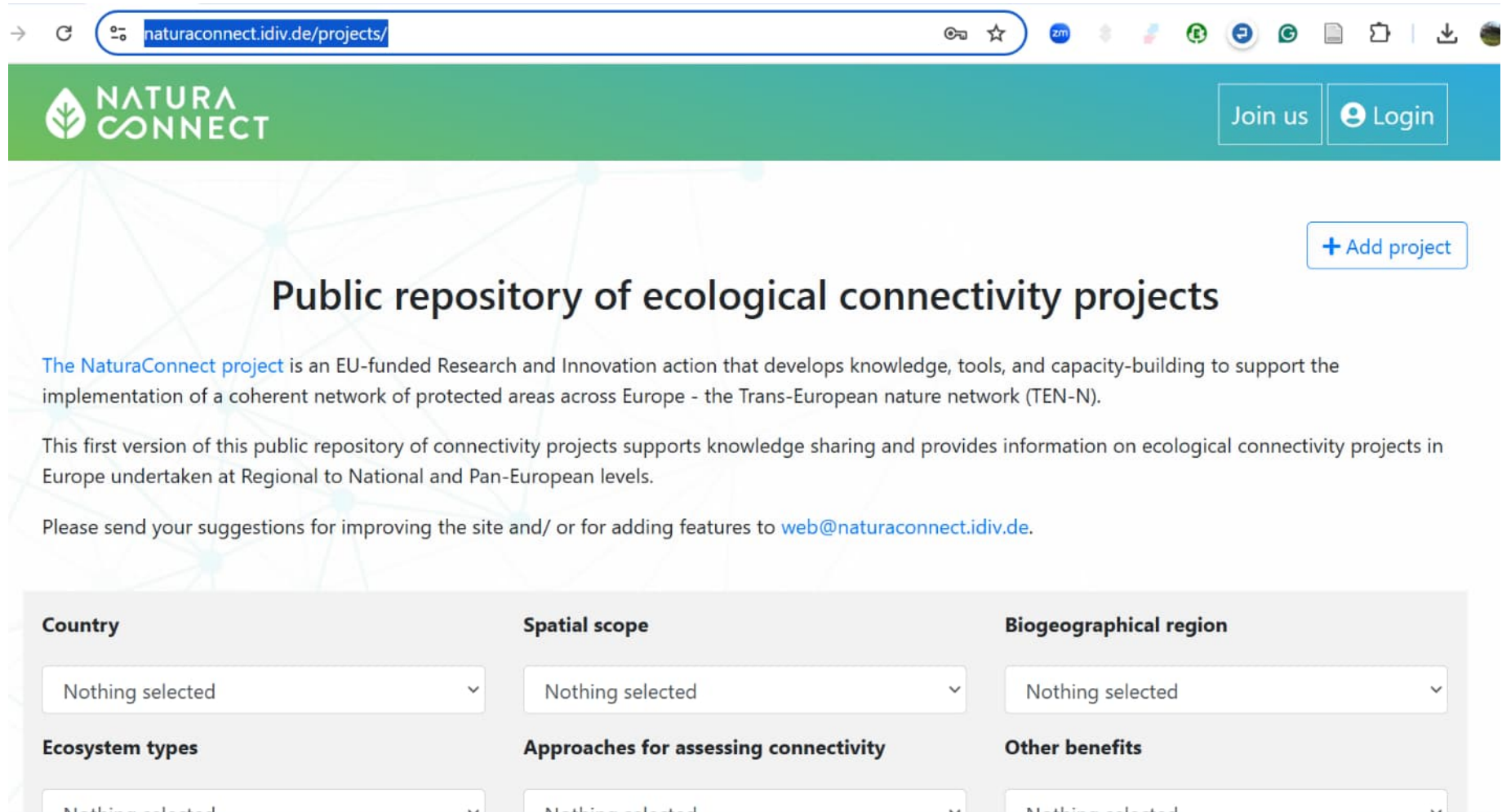
Author(s): Francisco Moreira, Filipe S. Dias, Jeremy Dertien, Ana Ceia Hasse, Luis Borda-de-Água, Silvia Carvalho, Miguel Porto, Francesca Cosentino, Luigi Maiorano, Andrea Sacchi, Luca Santini, Florian Borgwardt, Georg Gruber, Nikolaj Poulsen, Rafaela Schinegger, Carina Seliger, Néstor Fernández

DOI: https://doi.org/10.3897/arphapreprints.e129021

Project database: https://naturaconnect.idiv.de/projects/

Connectivity project database – 80 projects

https://naturaconnect.idiv.de/projects/

Integrating blue and green infrastructure

In the Danube-Carpathian region – BOKU's science work

- Analysis of environmental conditions in the hydro-basins

- Freshwater and wetland related habitats and species

- Hotspots for freshwater and wetland related habitats and species

- Status of freshwater and wetland related habitats and species

- Pressures on freshwater and wetland related habitats and species

- Suggestions for restoration areas

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R = Resilience

Ability to bounce back from disturbances

- Future climates
- Future land use
- Perturbations, like floods and fires

Copyright: Carina Seliger

R = Resilience

Climate change

- Future chromatic condition in Finland according to different climatic variables, e.g.: mean temperature in January

- Velocity of changing climate every year to experience the same climatic conditions in km using IPCC climate models

- Nowhere by the end of this century, the current climate conditions will be experienced

Source: Heikkinen et al. 2021 https://doi.org/10.1038/s41598-020-58638-8
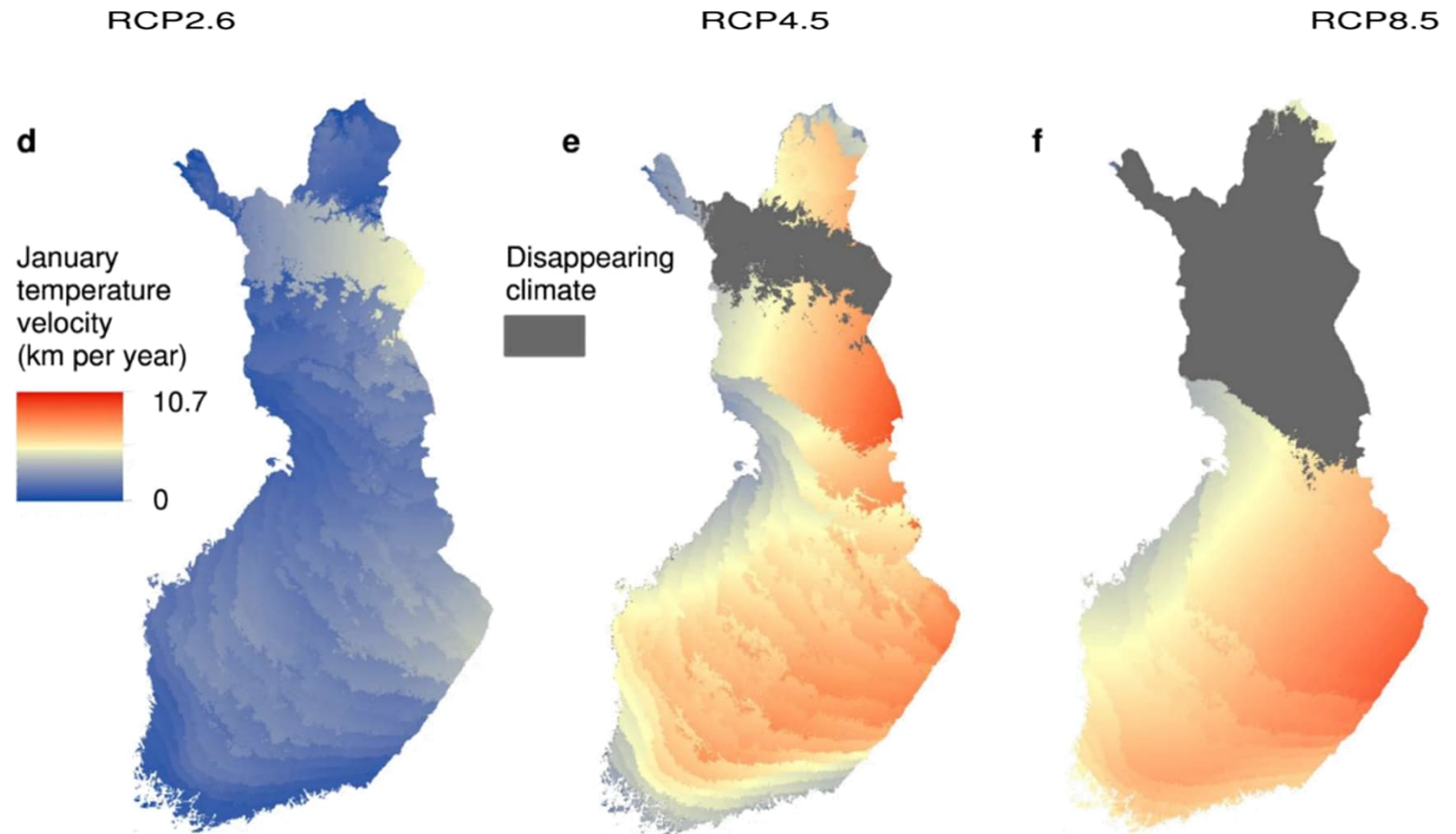
Addressing resilience

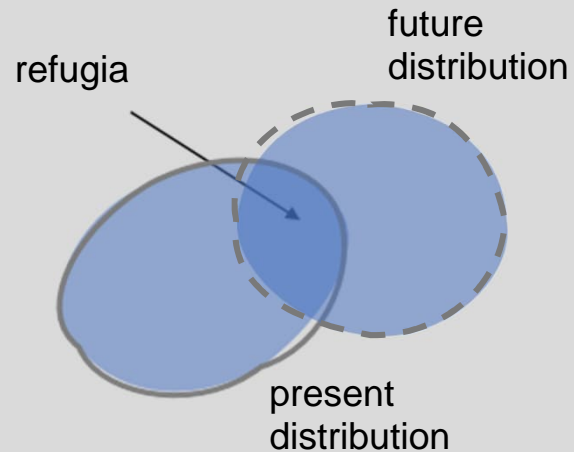| Emphasizing bioclimatic refugia	Finding robust solutions across alternative futures (multiple priority scenarios)	Acceptable balance between *certain* present and *uncertain* future
Securing areas that are good now and in the future	How often a priority? never — always	How much weigh can be given to future areas before we risk protection of present? Including stakeholders' opinions.
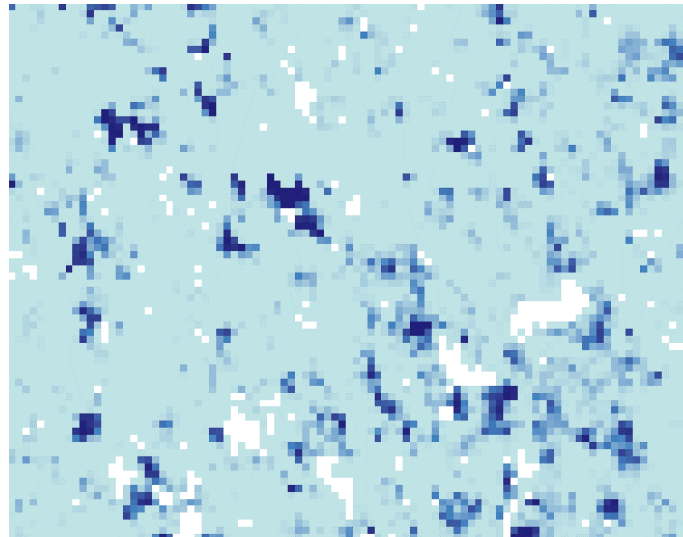
refugia

future distribution

present distribution

Source: Heini Kujala & NaturaConnect project

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E = Effectiveness

The EU Biodiversity Strategy Target 3 states that by 2030 Members States should:

Effectively manage all protected areas, defining clear conservation objectives and measures, and monitoring them appropriately.

Copyright: Rastislav Staník

Factsheets for funding opportunities

Public & Private

Link to short
intro:
https://naturacon
nect.eu/financing
-options-for-the-
trans-european-
nature-network-
ten-n/#

DOI:
https://doi.org/10
.3897/arphaprep
rints.e155364

Review and Synthesis of Best Practices in Governance and Land-use Policies to Implement TEN-N

D2.1 Review and synthesis of best practices in governance and land-use policies to implement TEN-N

This document reviews and synthesizes information on existing land-use planning and land management policy and guidance for GI management across countries and administrative levels. It compiles best practices which will be made available as a report in English and a selected number of languages for the 6 case studies.

Author(s): Joana Bores, Hildegard Meyer, Evelyn Underwood, Mila Sirychenko, Wouter Langhout, Peer von Döhren, Daniel Veríssimo, Balázs Horváth, Kenny Meganck, Alina Blaga, Måns Ingvarsson, Gabrielle Aubert, Barbara Herrero, Matea Osti, Anouk Puymartin

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Review and synthesis of best practices in governance and land-use policies to implement TEN-N

Deliverable 2.1

Funded by the European Union

NaturaConnect receives funding under the European Union's Horizon Europe research and innovation programme under grant agreement number 101060429.

Key findings

- Ecological connectivity frameworks and strategies exist or are being developed in several European countries

- Challenges with implementation and legal gaps
  - Lack of laws and regulations for strategic planning in economic sectors
  - Policies do not have required impact on spatial planning
  - Mismatch between the scale of implementation and action needed

- Unsustainable land-use and infrastructure development

- Technical capabilities and knowledge/data gaps

- Public funding available, but
  - Lack of post-project funding
  - Private funding instruments hold some promise.

- Poor conflict management, lack of capacity on the ground

Copyright: Cornelia Dörr - WWF
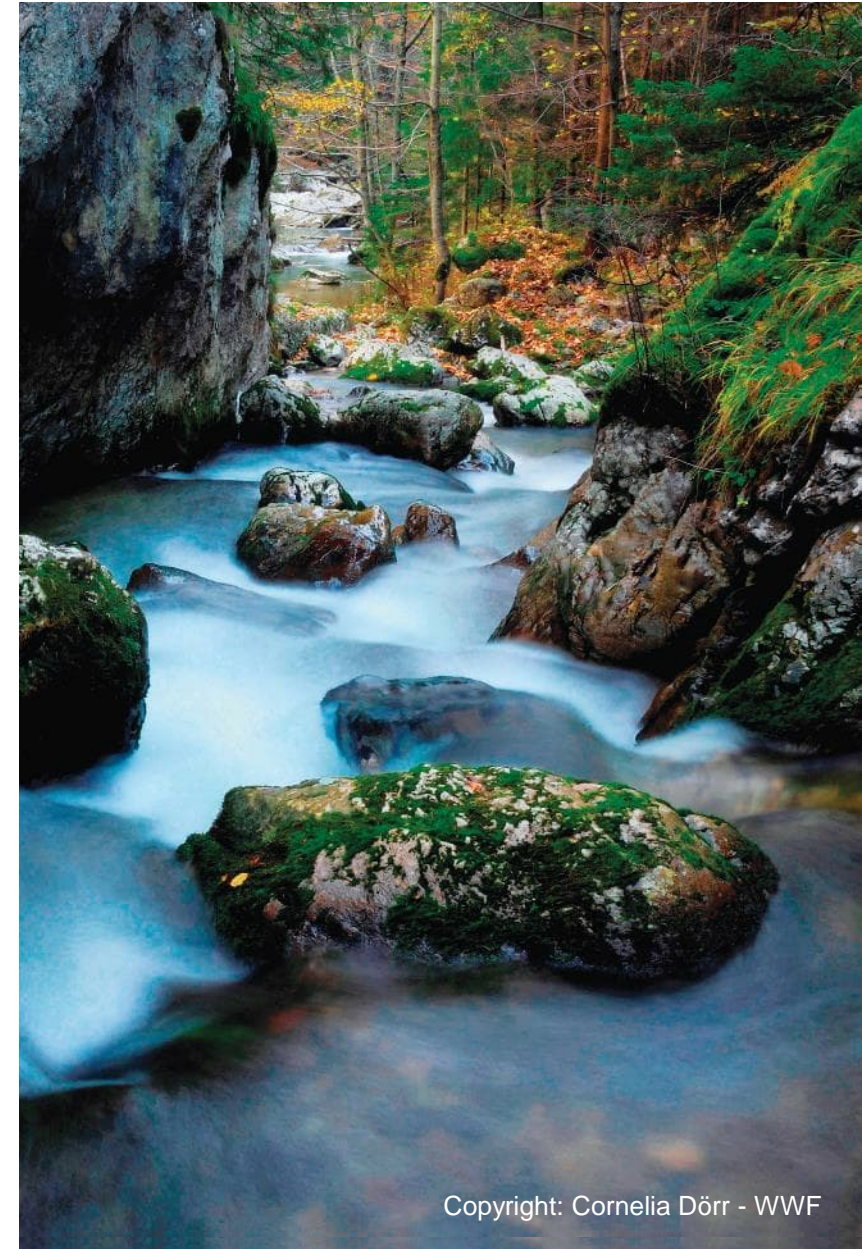
Training Needs Assessment Tool

Purpose

Assess essential competences for connectivity and conservation planning

- Competence assessment based on the IUCN Global Register for Competences for Protected Area Practitioners

- Comprehensive self-assessment for biodiversity conservation managers, spatial planning technicians and data analysts (30-40 min)
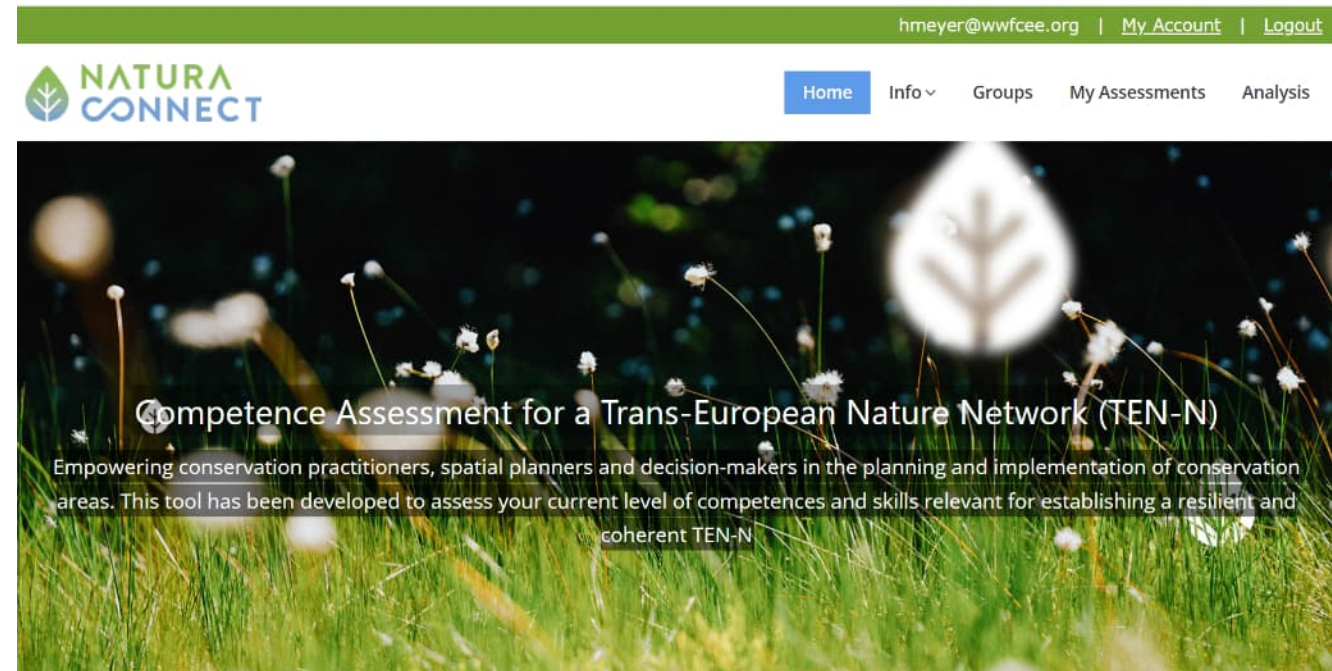
Landing page of the Competence Assessment Tool

https://conservation-cat.com/naturaconnect
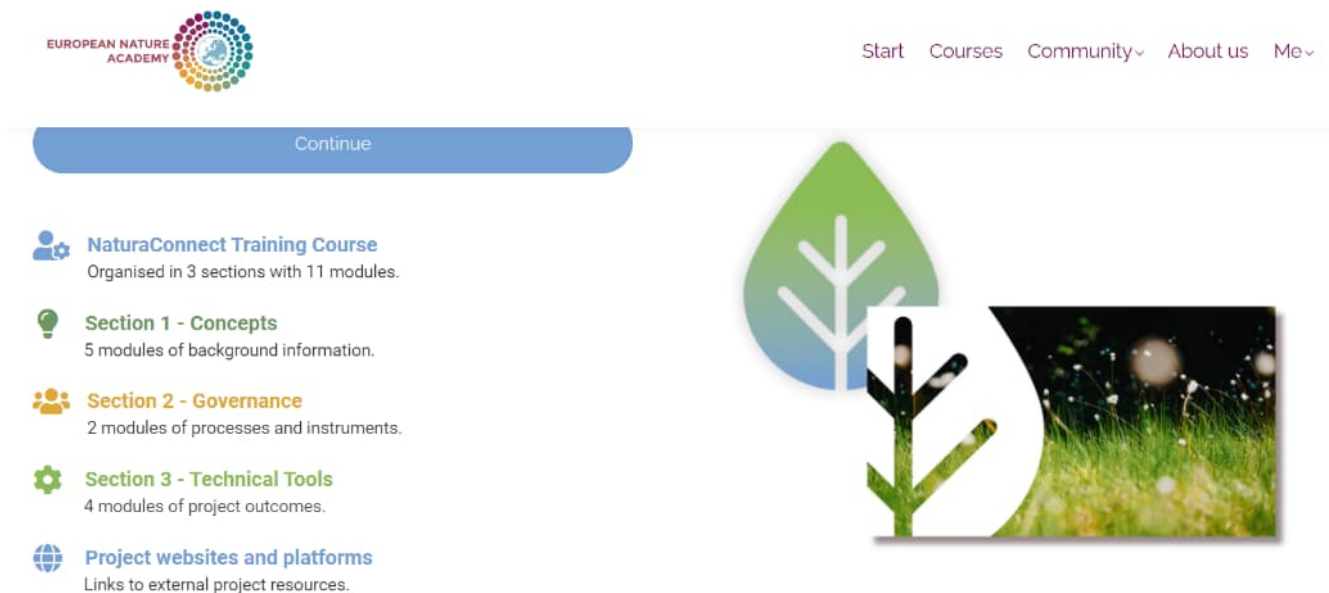
NaturaConnect Learning Platform

Target audience

Biodiversity conservation managers, spatial planning technicians and data analysts

Objectives

- Improve conservation planning
- Empower users to apply NaturaConnect outputs

Self-paced course with sequential and stand-alone modules, hosted by the European Nature Academy

Landing page of the NaturaConnect Learning Platform

https://europeannatureacademy.com/course/naturaconnect

Section 1 - Concepts

Background information.

Modules

1.1. Trans-European Nature Network (TEN-N)

1.2. Cross-sectoral Policy Frameworks

1.3. Nature Futures Framework (NFF)

1.4. Connectivity Conservation

1.5. Integrated Spatial Planning

Section 2 - Governance

Processes and instruments.

Modules

2.1. Stakeholder Engagement

2.2. Financial Instruments

2.3. Political Economy Analysis (PEA)

Section 3 - Technical Tools

Project outcomes.

Modules

3.1. Biodiversity Modelling
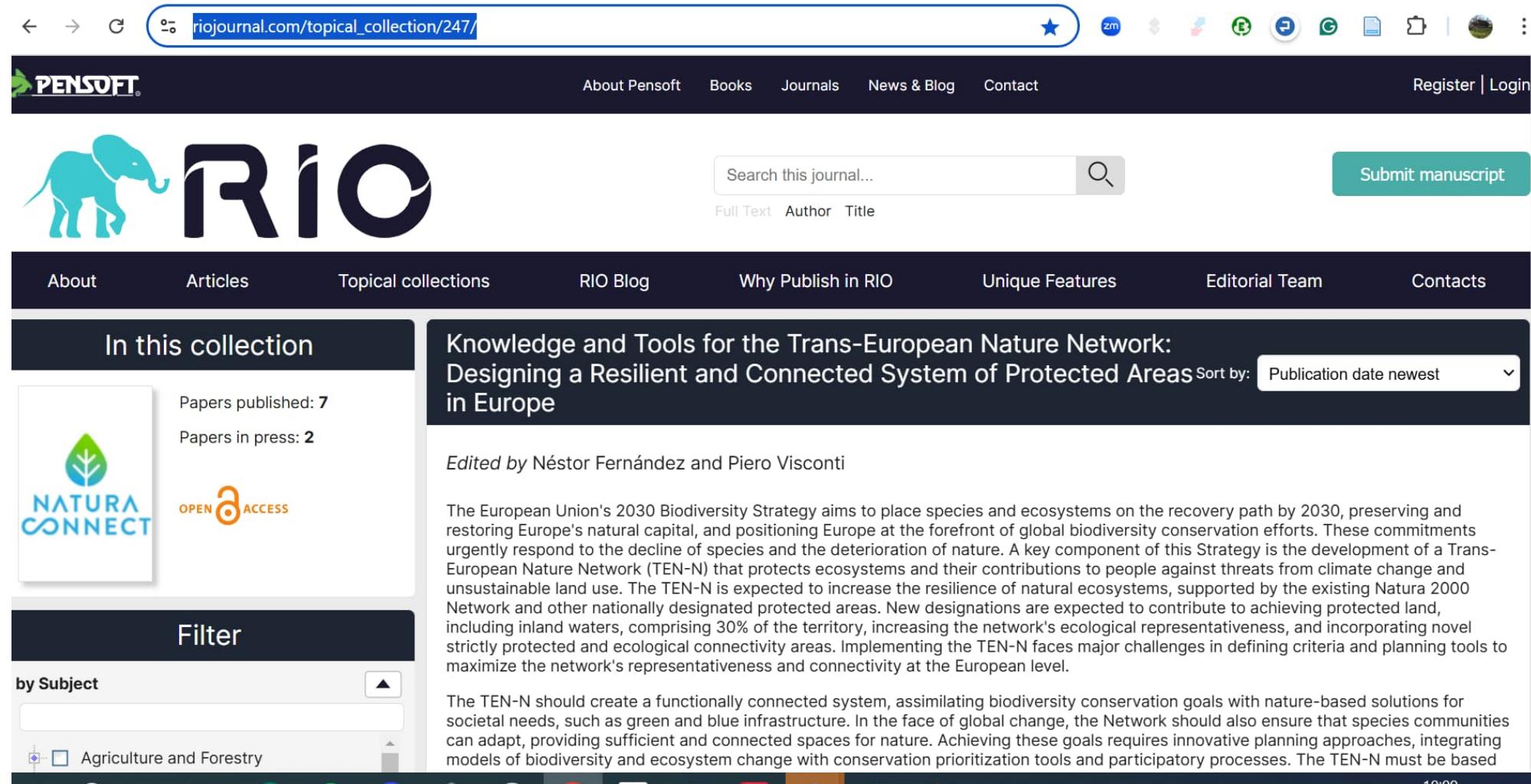
3.2. Scenarios on Land Use and Climate Change

3.3. Connectivity Analyses

3.4. Spatial Planning for Protected and Restoration Areas

Learning modules

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All activities combined will lead to the blueprint of a truly coherent, representative Trans-European Nature Network

https://riojournal.com/topical_collection/247/

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☐ Agriculture and Forestry

Knowledge and Tools for the Trans-European Nature Network: Designing a Resilient and Connected System of Protected Areas in Europe

Sort by: Publication date newest

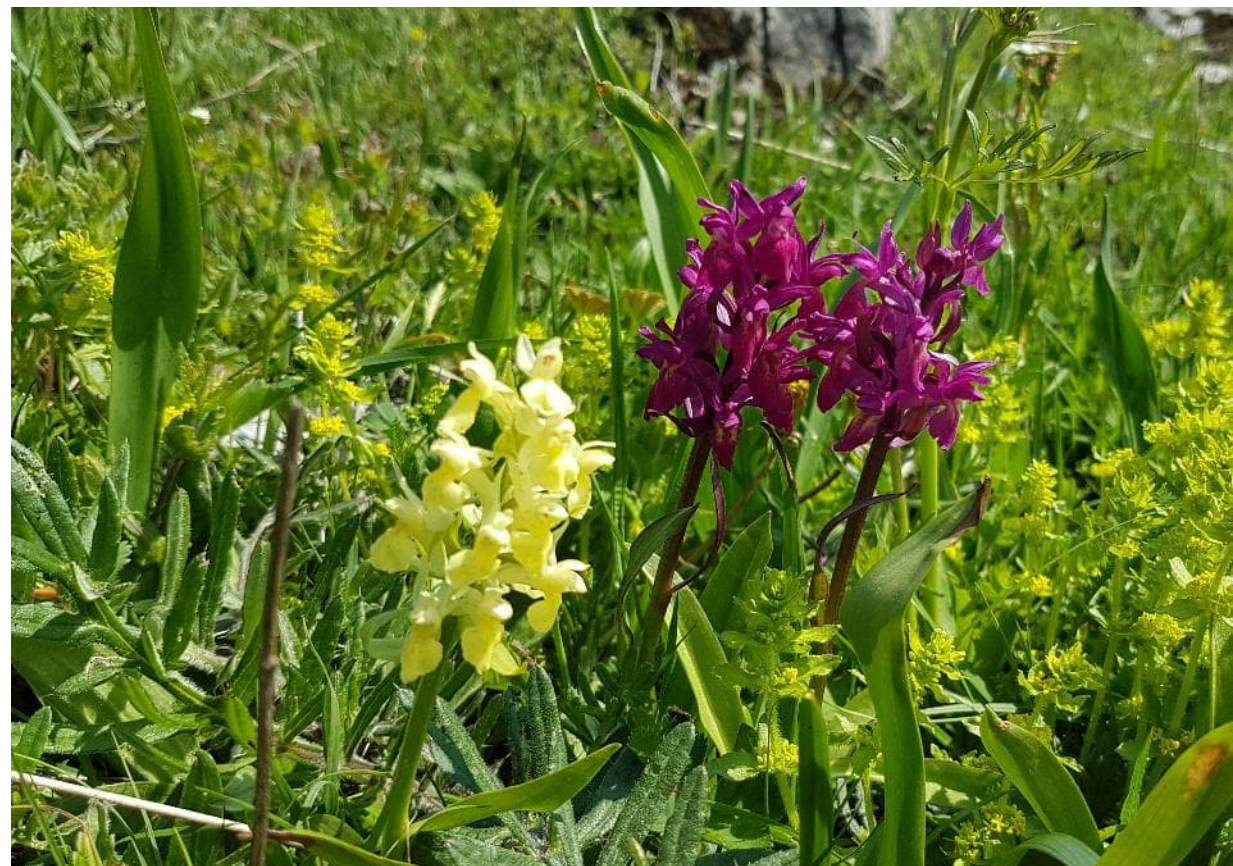*Edited by* Néstor Fernández and Piero Visconti

The European Union's 2030 Biodiversity Strategy aims to place species and ecosystems on the recovery path by 2030, preserving and restoring Europe's natural capital, and positioning Europe at the forefront of global biodiversity conservation efforts. These commitments urgently respond to the decline of species and the deterioration of nature. A key component of this Strategy is the development of a Trans-European Nature Network (TEN-N) that protects ecosystems and their contributions to people against threats from climate change and unsustainable land use. The TEN-N is expected to increase the resilience of natural ecosystems, supported by the existing Natura 2000 Network and other nationally designated protected areas. New designations are expected to contribute to achieving protected land, including inland waters, comprising 30% of the territory, increasing the network's ecological representativeness, and incorporating novel strictly protected and ecological connectivity areas. Implementing the TEN-N faces major challenges in defining criteria and planning tools to maximize the network's representativeness and connectivity at the European level.

The TEN-N should create a functionally connected system, assimilating biodiversity conservation goals with nature-based solutions for societal needs, such as green and blue infrastructure. In the face of global change, the Network should also ensure that species communities can adapt, providing sufficient and connected spaces for nature. Achieving these goals requires innovative planning approaches, integrating models of biodiversity and ecosystem change with conservation prioritization tools and participatory processes. The TEN-N must be based

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Recent events

- Webinar: Political Economy Analysis (PEA): Your Key to Navigating Environmental Governance Challenges, 10 April 2025

- Webinar: Ecological Connectivity Conservation in Europe. Guidelines and Early Results of Pan-European Connectivity Planning, 25 April 2025

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Outlook I

Webinar series

- 22 May 2025, online 10.30-12.00 CEST: **Mapping the Future of Europe's Protected Areas – Setting Priorities for Strategic Expansion** (for all NaturaConnect stakeholders) in collaboration with IIASA

- First half of September 2025: **Public and private financing opportunities for protected areas and ecological connectivity in the Danube-Carpathian region** in collaboration with the Institute of European Environment Policy

- End of September 2025: **Integrated Green and Blue Infrastructure in the Danube-Carpathian Region** in collaboration with BOKU

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Outlook II

Other event

- October/Nov 2025: **Political Economy Analysis in the Danube-Carpathian region: Recommendations and possible implementation** in collaboration with others

- December 2025: Second part of **Mapping the Future of Europe's Protected Areas – Setting Priorities for Strategic Expansion** (for all NaturaConnect stakeholders) in collaboration with IIASA

- Early 2026: **NaturaConnector - a Decision Support Tool** in collaboration with IIASA

- Climate change and land-use scenarios is under discussion

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Outlook III

Other events

- 26-27 November 2025, Brussels: **Second stakeholder engagement event**
- **Launch events for the modules on the Learning Platform**

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🔗 https://bsky.app/profile/naturaconnect.bsky.social

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